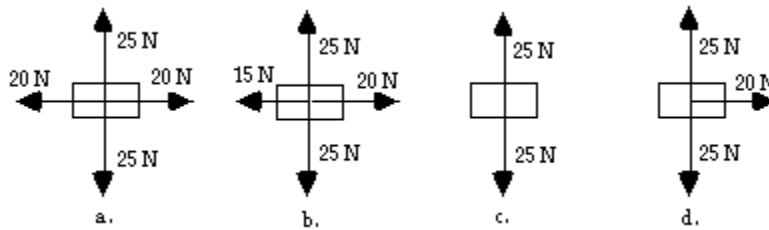


Hovercraft Test Questions
DO NOT WRITE ON THIS TEST, USE ANSWER SHEET

1. Which of the following statements are true of inertia? List all that apply.
 - A. Inertia is a force which brings all objects to a rest position.
 - B. A more massive object has more inertia than a less massive object.
2. If an object is moving with a constant speed in a circle, then the forces acting upon the object are balanced forces. True or False?
3. Which one(s) of the following force diagrams depict an object moving to the right with a constant speed? List all that apply.



4. A 5.20-N force is applied to a 1.05-kg object to accelerate it rightwards across a friction-free surface. Determine the acceleration of the object. (Neglect air resistance.)
5. Who is generally credited with designing the first working hovercraft that operated using a ring-shaped cushion of air?
6. Which of the following statements are true of inertia?
 - A. Inertia is not a force.
 - B. Inertia is a force which keeps stationary objects at rest and moving objects in motion at constant velocity.
7. Which of the following statements are false of an object that experiences balanced forces (or unbalanced forces)?
 - A. If a person is moving to the right, then the forces acting upon it are NOT balanced.
 - B. A balance of forces is demonstrated by an object which is slowing to a stop.
8. An object moves with a constant acceleration of 5 m/s^2 . Which of the following statements is true?
 - A. The object's velocity stays the same
 - B. The object's velocity increases by 5 m/s each second
9. Little Billie weighs 980 N on Earth. What is Little Billie's mass on the moon where the force of gravity is approximately $1/6$ -th that of Earth's?

10. A shopper in a supermarket pushes a loaded cart with a horizontal force of 16.5 Newtons. If the cart has a mass of 33.8 kg, how far (in meters) will it move in 1.31 seconds, starting from rest? (Neglect resistive forces.)
11. The amount of net force required to keep a 5Kg object moving rightwards with a constant velocity of 2m/s is _____.
12. When a person is jump roping where do they have the most potential energy?
- A. at the top right before they go down again
 - B. in the middle of their jump
 - C. at the bottom when they hit the ground
 - D. at the bottom when they bend their knees
13. Kinetic energy is the energy of _____
- A. stored energy
 - B. motion and position
 - C. position
 - D. motion
14. Which law states the need to wear seatbelts?
- A. Newton's First Law
 - B. Newton's Second Law
 - C. Newton's Third Law
 - D. All of above
15. How long will an object remain at rest, per Newton's First Law of Motion?
- A. It can't rest.
 - B. Until noon.
 - C. Until an unbalanced force occurs.
 - D. Until there are unbalanced force(s) acting on it.
16. The fastest recorded hovercraft traveled at this speed on land:
- A. 85.4 mph
 - B. 120.6 mph
 - C. 62.0 mph
 - D. 35.2 mph
17. What is the name of remaining passenger Hovercraft service in Britain?
18. A scalar quantity has a magnitude and a vector quantity does not. TRUE or FALSE?
19. A hovercraft uses which mechanical force(s) to move?
20. A 921-kg sports car is moving rightward with a speed of 29.0 m/s. The driver suddenly slams on the brakes and the car skids to a stop over the course of 3.20 seconds with the wheels locked. Determine the average resistive force acting upon the car.

ANSWER SHEET

Question No.	Answer
1	B
2	False
3	a, c
4	4.95 m/s/s Right
5	Christopher Cockerel
6	A
7	A, B
8	B
9	100 Kg
10 *	0.419 m
11 *	0
12	A
13	D
14	A
15	D
16	A
17	Isle of Wight
18	FALSE
19	TRUE
20 *	8346.56N Left

*Tie Breaker Questions